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* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	APR 02	CAS Registry Number Crossover Limits Increased to 500,000 in Key STN Databases
NEWS 3	APR 02	PATDPAFULL: Application and priority number formats enhanced
NEWS 4	APR 02	DWPI: New display format ALLSTR available
NEWS 5	APR 02	New Thesaurus Added to Derwent Databases for Smooth Sailing through U.S. Patent Codes
NEWS 6	APR 02	EMBASE Adds Unique Records from MEDLINE, Expanding Coverage back to 1948
NEWS 7	APR 07	CA/CAplus CLASS Display Streamlined with Removal of Pre-IPC 8 Data Fields
NEWS 8	APR 07	50,000 World Traditional Medicine (WTM) Patents Now Available in CAplus
NEWS 9	APR 07	MEDLINE Coverage Is Extended Back to 1947
NEWS 10	JUN 16	WPI First View (File WPIFV) will no longer be available after July 30, 2010
NEWS 11	JUN 18	DWPI: New coverage - French Granted Patents
NEWS 12	JUN 18	CAS and FIZ Karlsruhe announce plans for a new STN platform
NEWS 13	JUN 18	IPC codes have been added to the INSPEC backfile (1969-2009)
NEWS 14	JUN 21	Removal of Pre-IPC 8 data fields streamline displays in CA/CAplus, CASREACT,and MARPAT
NEWS 15	JUN 21	Access an additional 1.8 million records exclusively enhanced with 1.9 million CAS Registry Numbers -- EMBASE Classic on STN
NEWS 16	JUN 28	Introducing "CAS Chemistry Research Report": 40 Years of Biofuel Research Reveal China Now Atop U.S. in Patenting and Commercialization of Bioethanol
NEWS 17	JUN 29	Enhanced Batch Search Options in DGENE, USGENE, and PCTGEN
NEWS 18	JUL 19	Enhancement of citation information in INPADOC databases provides new, more efficient competitor analyses
NEWS 19	JUL 26	CAS coverage of global patent authorities has expanded to 61 with the addition of Costa Rica
NEWS 20	SEP 15	MEDLINE Cited References provide additional revelant records with no additional searching.

NEWS EXPRESS FEBRUARY 15 10 CURRENT WINDOWS VERSION IS V8.4.2,

AND CURRENT DISCOVER FILE IS DATED 07 JULY 2010.

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FILE 'HOME' ENTERED AT 13:09:59 ON 01 OCT 2010

=> FIL REG
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.22 0.22

FILE 'REGISTRY' ENTERED AT 13:10:27 ON 01 OCT 2010
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 30 SEP 2010 HIGHEST RN 1244125-02-7
DICTIONARY FILE UPDATES: 30 SEP 2010 HIGHEST RN 1244125-02-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

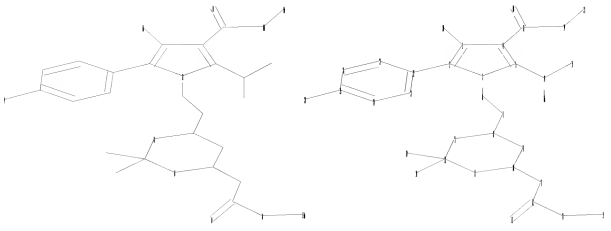
TSCA INFORMATION NOW CURRENT THROUGH June 26, 2010.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\STNEXP\Queries\10549890\compound H.str

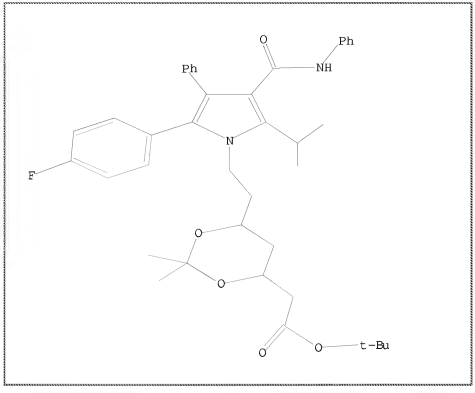


chain nodes :
6 7 14 15 16 17 18 19 20 21 28 29 30 31 32 33 34 35
ring nodes :
1 2 3 4 5 8 9 10 11 12 13 22 23 24 25 26 27
chain bonds :
1-6 2-22 3-20 4-17 5-14 6-7 7-8 10-31 12-29 12-30 14-15 14-16 17-18
17-19 19-21 25-28 31-32 32-33 32-34 34-35
ring bonds :
1-2 1-5 2-3 3-4 4-5 8-9 8-13 9-10 10-11 11-12 12-13 22-23 22-27 23-24
24-25 25-26 26-27
exact/norm bonds :
1-2 1-5 1-6 2-3 3-4 4-5 8-9 8-13 9-10 10-11 11-12 12-13 17-18 17-19
32-33 32-34
exact bonds :
2-22 3-20 4-17 5-14 6-7 7-8 10-31 12-29 12-30 14-15 14-16 19-21 25-28
31-32 34-35
normalized bonds :
22-23 22-27 23-24 24-25 25-26 26-27

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS
19:CLASS 20:CLASS 21:CLASS 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom
28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS

L1 STRUCTURE UPLOADED

=> D
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

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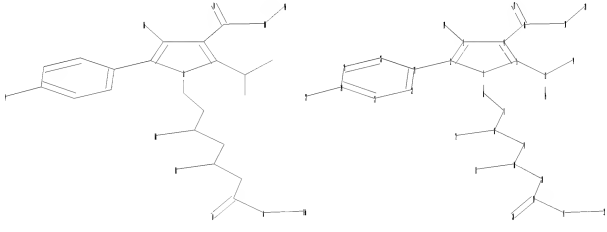
Uploading C:\Program Files\STNEXP\Queries\10549890\compound I.str



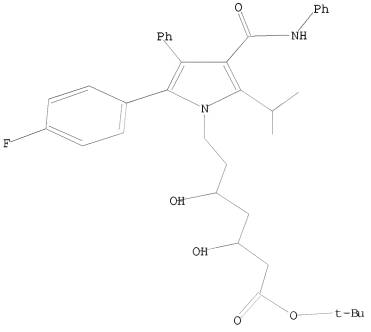
chain nodes :
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 27 28 29 30 31 32
ring nodes :
1 2 3 4 5 21 22 23 24 25 26

chain bonds :
1-6 2-21 3-19 4-16 5-13 6-7 7-8 8-9 8-12 9-10 10-11 10-28 13-14 13-15 16-17 16-18 18-20 24-27 28-29 29-30 29-31 31-32
ring bonds :
1-2 1-5 2-3 3-4 4-5 21-22 21-26 22-23 23-24 24-25 25-26
exact/norm bonds :
1-2 1-5 1-6 2-3 3-4 4-5 8-12 10-11 16-17 16-18 29-30 29-31
exact bonds :
2-21 3-19 4-16 5-13 6-7 7-8 8-9 9-10 10-28 13-14 13-15 18-20 24-27 28-29 31-32
normalized bonds :
21-22 21-26 22-23 23-24 24-25 25-26

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS

L2 STRUCTURE UPLOADED

=> D
L2 HAS NO ANSWERS
L2 STR



Structure attributes must be viewed using STN Express query preparation.

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=> S L1
SAMPLE SEARCH INITIATED 13:11:06 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        8 TO ITERATE

100.0% PROCESSED        8 ITERATIONS                                0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:            8 TO      329
PROJECTED ANSWERS:               0 TO        0

L3            0 SEA SSS SAM L1
```

```
=> S L1 FULL
FULL SEARCH INITIATED 13:11:10 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      134 TO ITERATE

100.0% PROCESSED      134 ITERATIONS                               13 ANSWERS
SEARCH TIME: 00.00.01

L4           13 SEA SSS FUL L1
```

```
=> S L2
SAMPLE SEARCH INITIATED 13:11:13 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        5 TO ITERATE

100.0% PROCESSED        5 ITERATIONS                                0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:            5 TO      234
PROJECTED ANSWERS:               0 TO        0

L5            0 SEA SSS SAM L2
```

```
=> S L2 FULL
FULL SEARCH INITIATED 13:11:17 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -      125 TO ITERATE

100.0% PROCESSED      125 ITERATIONS                               5 ANSWERS
SEARCH TIME: 00.00.01

L6            5 SEA SSS FUL L2
```

```
=> D HIS

     (FILE 'HOME' ENTERED AT 13:09:59 ON 01 OCT 2010)

     FILE 'REGISTRY' ENTERED AT 13:10:27 ON 01 OCT 2010
L1              STRUCTURE UPLOADED
L2              STRUCTURE UPLOADED
L3            0 S L1
L4           13 S L1 FULL
L5            0 S L2
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```
L6             5 S L2 FULL

=> FIL CAPLUS
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                              383.08     383.30

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FILE COVERS 1907 - 1 Oct 2010  VOL 153 ISS 15
FILE LAST UPDATED: 30 Sep 2010  (20100930/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Aug 2010
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Aug 2010

CAplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2010.

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http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> S L4
L7             78 L4

=> S L6
L8             47 L6

=> S L7 AND L8
L9             27 L7 AND L8

=> D IBIB ABS HITSTR TOT
```

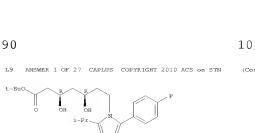
L9 ANSWER 1 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2010:343955 CAPLUS
DOCUMENT NUMBER: 153:232369
TITLE: Process for the preparation of amorphous atorvastatin calcium via saponification of atorvastatin tert-butyl ester
INVENTOR(S): Dwivedi, Shriprakash Dhar; Patel, Dhumant Jasubhai; Virchhi, Kishor Maveklal; Rupapara, Mahesh Laljibhai
PATENT ASSIGNEE(S): Cadila Healthcare Limited, India
SOURCE: U.S. Pat. Appl. Publ., 17pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20100279999	A1	20100729	US 2009-359467	20090126
PRIORITY APPLN. INFO.:			US 2009-359467	20090126

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): CASREACT 153:232369
AB Amorphous atorvastatin calcium was prepared via saponification of atorvastatin
tert-Bu ester in an organic solvent followed by concentration of the reaction mixture,
addition of H2O, Ca(OAc)2, NH3, and excess Ca(OAc)2, separation of the EtOAc layer,
distillation, treatment with C5-12 hydrocarbon solvent, and optional slurrying
with diakyl ethers.
IT 134395-00-9
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for preparation of amorphous atorvastatin calcium via saponification of
atorvastatin tert-Bu ester)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

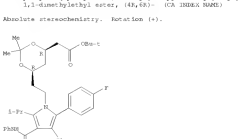
Absolute stereochemistry.

L9 ANSWER 1 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



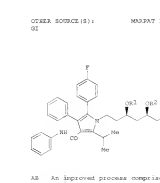
IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparation of amorphous atorvastatin calcium via saponification of
atorvastatin tert-Bu ester)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L9 ANSWER 2 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2010:178238 CAPLUS
DOCUMENT NUMBER: 153:87568
TITLE: Use of amphiphilic compounds for controlled crystallization of statins and statin intermediates
INVENTOR(S): Kljajic, Alen; Kopet, Jozk
PATENT ASSIGNEE(S): Krka, D. D., Novo Mesto, Slovenia
SOURCE: PCT Int. Appl., 59pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

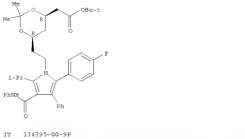
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2010069593	A1	20100624	WO 2009-EP9149	20091218
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	EP 2008-316	A	20081219	
	EP 2009-13601	A	20091029	
PRIORITY APPLN. INFO.:				
OTHER SOURCE(S):	MARPAT 153:87568			
GI				



AB An improved process comprised amphiphilic compds. for the crystallization of
intermediates, such as I [R3, R2 = H, alkyl, etc. or R1R2 = alkylene, such

L9 ANSWER 2 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
as CMe2; R3 = H, alkyl] and related statin skeletons, used in the process for the prep. of statins and statin intermediates.
IT 125971-95-1
RL: IMF (Industrial manufacture); PRP (Properties); PUR (Purification or recovery); PREP (Preparation)
(process for the use of amphiphilic compds. for controlled crystallization and
purification of statins and statin intermediates)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6S)- (CA INDEX NAME)

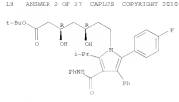
Absolute stereochemistry. Rotation (+).



IT 134395-00-9
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for the use of amphiphilic compds. for controlled crystallization and
purification of statins and statin intermediates)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 2 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)

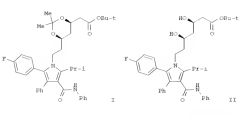


REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:1308946 CAPLUS
DOCUMENT NUMBER: 151:528604
TITLE: Process for preparation of Atorvastatin calcium
INVENTOR(S): Wang, Yongy Chen, Niangmei; Jiao, Yuhong; Chen, Lenhua; Kang, Yanlong
PATENT ASSIGNEE(S): Beijing Venturepharm Technology Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp. CODEN: CNXLBV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 101560177	A	20091021	CN 2008-10104174	20080418
PRIORITY APPLN. INFO.:			CN 2008-10104174	20080418

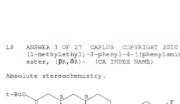
OTHER SOURCE(S): CASREACT 151:528604
GI



AB This invention provides a process for the preparation of Atorvastatin calcium, which comprises deprotection of I with organic acids (i.e. tartaric acid, oxalic acid, benzoic acid, or salicylic acid) to obtain II, followed by dissolving in alcs., adjusting pH with KOH to get potassium salt, and addition of calcium salts (i.e. CaCl2 or Ca(HCO2)2) to give the title compound in high yield.
IT 134395-00-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(Intermediate; preparation of Atorvastatin calcium)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-

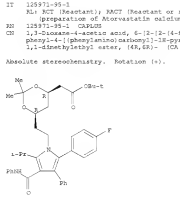
L9 ANSWER 3 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
[1-methylethyl]-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAMES)

Absolute stereochemistry.



IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of Atorvastatin calcium)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6R)- (CA INDEX NAMES)

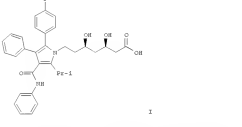
Absolute stereochemistry. Rotation (+).



L9 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:1052264 CAPLUS
DOCUMENT NUMBER: 151:288961
TITLE: Process for the production of atorvastatin calcium in amorphous form
INVENTOR(S): Kumar, Yatendra; Kumar, Saridi Madhava Dilesp; Sathyanarayana, Swargam
PATENT ASSIGNEE(S): Ranbaxy Laboratories Limited, India
SOURCE: U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 549,990.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20090216029	A1	20090827	US 2008-34838	20080221
PRIORITY APPLN. INFO.:			US 2005-549990	A2 20050916

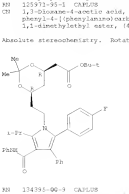
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): CASREACT 151:288961
GI



AB A process for the production of amorphous atorvastatin (I) calcium and stabilized, amorphous atorvastatin calcium is provided. I calcium salt (2x1) was prepared by cyclization of (4R-cis)-tert-Bu 6-(2-aminoethyl)-2,2-dimethyl-1,3-dioxane-4-acetate with 4-fluoro-α-(2-methyl-1-oxopropyl)-γ-oxo-N,β-diphenylbenzenebutanamide; the resulting pyrrole acetal derivative underwent hydrolysis to give the corresponding diol, which was converted to atorvastatin sodium salt, which was converted to atorvastatin calcium salt.
IT 125971-95-1P 134395-00-9P

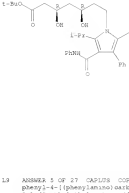
L9 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of cryst. form of atorvastatin hemicalcium)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAMES)

Absolute stereochemistry. Rotation (+).



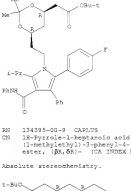
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAMES)

Absolute stereochemistry.



L9 ANSWER 5 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6S)- (CA INDEX NAMES)

Absolute stereochemistry. Rotation (+).



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAMES)

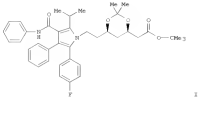
Absolute stereochemistry.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:790709 CAPLUS
DOCUMENT NUMBER: 151:101031
TITLE: Preparation of amorphous form of atorvastatin hemicalcium salt
INVENTOR(S): Vasantray, Vyas Ashok; Prahlad, Doshi Vinay
PATENT ASSIGNEE(S): M. J. Institute of Research, India
SOURCE: Eur. Pat. Appl., 29pp.
CODEN: EPXLDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 2075241	A1	20090701	EP 2007-150451	20071227
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
PRIORITY APPLN. INFO.:			EP 2007-150451	20071227

OTHER SOURCE(S): CASREACT 151:101031
GI



I

AB The present invention relates to a process for preparation of atorvastatin hemicalcium salt in its amorphous form. E.g., atorvastatin hemicalcium salt is prepared by hydrolysis of I with HCl to give a diol ester, treatment with NaOH to give atorvastatin Na salt and treatment with a Ca salt.
IT 125971-95-1P 134395-00-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of amorphous atorvastatin hemicalcium salt)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-

L9 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:784884 CAPLUS
DOCUMENT NUMBER: 152:119293
TITLE: Process for the preparation of amorphous atorvastatin calcium
INVENTOR(S): Jarabhai, Patel Dhimant; Maneklal, Vinchhi Kishor; Dhar, Duivedi Shrupraksh
PATENT ASSIGNEE(S): Cadila Healthcare Limited, India
SOURCE: Indian Pat. Appl., 21pp.
CODEN: INXSBQ
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IN 2007MU01225	A	20090619	IN 2007-MU1225	20070627
PRIORITY APPLN. INFO.:			IN 2007-MU1225	20070627

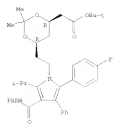
OTHER SOURCE(S): CASREACT 152:119293
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A process for preparation of an amorphous form of the hemi-calcium salt of (3R,5R)-7-[2-phenyl-4-phenylcarbamoyl-2-(4-fluorophenyl)-5-isopropyl-pyrrol-1-yl]-3,5-dihydroxy heptanoic acid (I) is disclosed. The process comprising of: concentrating ethylacetate solution containing, a hemi-calcium salt of I, which is obtained by alkaline hydrolysis of a tert-Bu ester II in a suitable organic solvent; followed by concentrating the reaction mixture to obtain solid or slurry; adding water to the concentrated mass followed by addition of Et acetate to obtain the clear solution; addition of excess of calcium acetate solution thereby adjusting pH alkaline pH; washing the separated Et acetate layer by water; addition of suitable amino acid; removing the solvent by distillation to obtain powder or lump of material; and slurring the powder or lump of material with suitable C5-C12 hydrocarbon to obtain amorphous atorvastatin calcium. Thus, amorphous atorvastatin calcium [1-I/Ca] was prepared from atorvastatin tert-Bu ester acetonide (III), via deisopropylidenation with aqueous HCl in MeCN, saponification with aqueous NaOH in MeCN, and salt formation with aqueous Ca(OAc)2 in EtOAc.
IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(O-deprotection of; process for the preparation of amorphous atorvastatin calcium)
RN 125971-95-1 CAPLUS

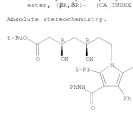
L9 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



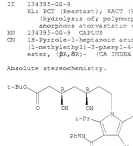
IT 134795-00-9P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for the preparation of amorphous atorvastatin calcium)
RN 134795-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.



L9 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
invention also relates to use of the novel amorphous atorvastatin tert-Bu ester and novel atorvastatin calcium form A1 for prepg. amorphous atorvastatin calcium. Thus, atorvastatin calcium form A1 (5.0 g) was suspended in dichloromethane (14.39 g) under stirring followed by heating at 40 to 43° for 20 min to obtain clear soln. The resulting soln. was filtered and concd. to dryness to obtain 2.5 g of amorphous atorvastatin calcium.
IT 134795-00-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, polymorph of atorvastatin calcium for preparation of amorphous atorvastatin calcium for dosage forms)
RN 134795-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.



IT 112971-93-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(polymorph of atorvastatin calcium for preparation of amorphous atorvastatin calcium for dosage forms)
RN 112971-93-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

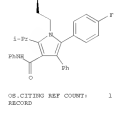
L9 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:55896 CAPLUS
DOCUMENT NUMBER: 150:152248
TITLE: Novel polymorph of atorvastatin calcium and use thereof for the preparation of amorphous atorvastatin calcium
INVENTOR(S): Dalal, Girish; Khile, Anil Shaha; Pradhan, Nitin Sharadchandra; Valgeirsson, Jon
PATENT ASSIGNEE(S): Actavis Group PTC HHF
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2009007856	A2	20090115	WO 2008-IB2624	20080711
WO 2009007856	A3	20090625		
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR				
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, EA, EP, CA				
IN 2007CN01494	A	20090821	IN 2007-CN1494	20070711
EP 2185527	A2	20100519	EP 2008-826311	20080711
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR				

PRIORITY APPLN. INFO.:
IN 2007-CN1494 A 20070711
IN 2007-CN1649 A 20070730
IN 2007-CH1710 A 20071003
WO 2008-IB2624 W 20080711

AB The present invention provides a novel polymorphic form of atorvastatin calcium, designated as form A1, process for preparation, pharmaceutical compns., and method of treating thereof. The present invention further provides a process for the preparation of highly pure amorphous atorvastatin calcium using the novel atorvastatin calcium form A1. The present invention also relates to novel amorphous form of atorvastatin tert-Bu ester, process for the preparation, and its application for preparing highly pure atorvastatin and its pharmaceutically acceptable salts. The present

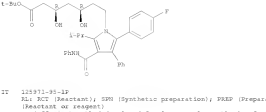
L9 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)

L9 ANSWER 8 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:1014404 CAPLUS
DOCUMENT NUMBER: 153:206909
TITLE: An efficient method for the large-scale synthesis of atorvastatin calcium
AUTHOR(S): Lee, Sang Woo; Kim, Young Min; Yoo, Choong Leol; Yang, Sung Kwon; Ahn, Soon Kil
CORPORATE SOURCE: Chemical Process Research and Development Laboratory, Chemical Research Group, Chong Kun Dang Research Institute, Cheonan, 370-871, S. Korea
SOURCE: Biomolecules & Therapeutics (2009), 16(1), 28-33
CODEN: BITHAV; ISSN: 1976-9148
PUBLISHER: Korean Society of Applied Pharmacology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Atorvastatin calcium salt (1) was obtained through the preparation of lactone compound (8) from 2-[(4R,6S)-6-(2-[2-(4-fluorophenyl)-5-isopropyl-3-phenyl-4-(phenylcarbamoyl)-1H-pyrrol-1-yl]-ethyl)-2-phenyl-1,3,2-dioxaborinan-4-yl]acetic acid tert-Bu ester (9) by hydrolysis in basic conditions. Efficient hydrolysis of benzoate compound 9 aimed at the viable synthesis from com. production and purification of Atorvastatin calcium is reported. Detail studies of evaluation procedure are also reported.
IT 174795-00-9
RL: PNU (Formation, unclassified); PUPM (Formation, nonpreparative) (efficient method developed for large-scale synthesis of atorvastatin calcium)
RN 174795-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

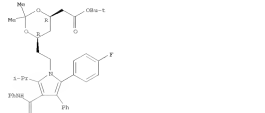
Absolute stereochemistry.



IT 125971-95-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (efficient method developed for large-scale synthesis of atorvastatin calcium)

L9 ANSWER 8 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

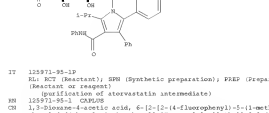
L9 ANSWER 9 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:786970 CAPLUS
DOCUMENT NUMBER: 149:152862
TITLE: Method for purifying atorvastatin intermediate
INVENTOR(S): Zhou, Junwei; Yang, Deyu
PATENT ASSIGNEE(S): Zhejiang Neo-Dankong Pharmaceutical Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10pp. CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 101100389	A	20080625	CN 2007-10306815	20071225
PRIORITY APPLN. INFO.:			CN 2007-10306815	20071225

AB The title method comprises the steps of: (1) adding crude atorvastatin tert-Bu ester (I) 1 weight part in ketone 1-3 weight parts, stirring to dissolve completely, and producing atorvastatin tert-Bu ester acetonide deri. (II) at the presence of acid ether hydroxyl-protecting agent 0.2-0.5 weight part, (2) adding the crude acetonide II in alc. 2-3 weight parts, stirring, heating to dissolve completely, cooling to room temperature, crystallizing for 2-3 h, filtering, washing the filter cake with water, and drying to obtain purified II, and (3) adding purified II in nitrile, decoloring with activated carbon, filtering, adding water 10-15 weight parts into the filtrate, performing acid hydrolysis, adjusting pH to 6.5-7.5 with base, adding water and filtering, washing the filter cake with water, and drying to obtain the purified I, the atorvastatin intermediate. The inventive method has the advantages of low cost, simple operation, and high product purity.
IT 174795-00-9P
RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (purification of atorvastatin intermediate)
RN 174795-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

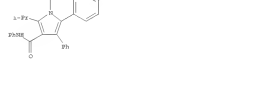
Absolute stereochemistry.

L9 ANSWER 9 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



IT 125971-95-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (purification of atorvastatin intermediate)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L9 ANSWER 10 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:551447 CAPLUS
DOCUMENT NUMBER: 148:523755
TITLE: A novel crystalline form of atorvastatin sodium
INVENTOR(S): Thaper, Rajesh Kumar; Mahakal, Kumodini Kashinath; Gundale, Shreenivas Digamber; Lande, Hemraj Mahadeorao; Shinde, Valmik Shankar
PATENT ASSIGNEE(S): Lupin Limited, India
SOURCE: PCT Int. Appl., 11pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC NUM COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2008053495	A1	20080508	WO 2007-IN398		20070910
IN 2006KO01143	A	20080516	IN 2006-KO1143		20061030
PRIORITY APPLN. INFO.:			IN 2006-KO1143	A	20061030

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

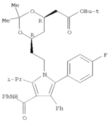
AB A novel crystalline form of atorvastatin sodium that has advantageous phys. properties useful in the manufacture of atorvastatin hemi-calcium salt is provided. The said crystalline atorvastatin sodium has characteristic X-ray powder diffraction pattern and is highly pure with purity above 99.5%.

IT 125971-95-1P 134395-00-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of crystalline form of atorvastatin sodium)

RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

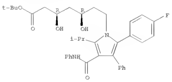
Absolute stereochemistry. Rotation (+).

L9 ANSWER 10 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 11 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2008:551350 CAPLUS
DOCUMENT NUMBER: 148:523638
TITLE: Process for preparing amorphous atorvastatin hemicalcium salt and its intermediate
INVENTOR(S): Ambalal, Modi Indravadan; Pratima, Jain; Rajput, Amarsingh L.; Tekade, Prabhakar Motiram; Joshi, Atul Chhotalal; Ravi, Ponnaiah; Mafatlal, Khamar Bakulesh
PATENT ASSIGNEE(S): Cadila Pharmaceuticals Limited, India
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2008053312	A2	20080508	WO 2007-IB3251		20071029
WO 2008053312	A3	20090423			
IN 2006MU01829	A	20080718	IN 2006-MU1829		20061102
US 20100113802	A1	20100506	US 2010-513346		20100111
PRIORITY APPLN. INFO.:			IN 2006-MU1829	A	20061102
			IN 2007-MU334	A	20070219
			WO 2007-IB3251	W	20071029

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

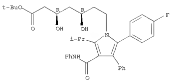
AB The invention relates to the HMG-CoA reductase inhibitor in particular to atorvastatin hemicalcium. The present invention is directed to novel processes for preparing amorphous form of atorvastatin hemicalcium and their intermediate in high purity. Amorphous atorvastatin hemicalcium was prepared by dissolving (βR,δR)-2-(4-fluorphenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrole-1-heptanoic acid tert-Bu ester in acetonitrile, adding NaOH solution followed by the addition of calcium gluconate solution

IT 134395-00-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparing amorphous atorvastatin hemicalcium salt and its intermediate)

RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl

L9 ANSWER 11 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
ester, (βR,δR)- (CA INDEX NAME)

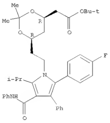
Absolute stereochemistry.



IT 125971-95-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for preparing amorphous atorvastatin hemicalcium salt and its intermediate)

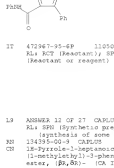
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L9 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:363240 CAPLUS
DOCUMENT NUMBER: 150:168087
TITLE: Synthesis of some impurities and/or degradation products of atorvastatin
AUTHOR(S): Stach, Jan; Havlicek, Jaroslav; Placek, Lukas; Kadl, Stanislav
CORPORATE SOURCE: Sentiva, Prague, 102 37/10, Czech Rep.
SOURCE: Collection of Czechoslovak Chemical Communications (2009), 74(2), 229-246
CODEN: CCCCAK; ISSN: 0010-0765
PUBLISHER: Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 150:168087
AB Synthesis of some impurities and/or degradation products of atorvastatin calcium is described. These include its desfluoro analog, the corresponding (3S,5S)- and (3R,5R)-epimers, atorvastatin lactone, and none other potential impurities. The synthesized compds. as well as the corresponding intermediates were characterized by 1H NMR, 13C NMR and MS.
IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of some impurities and/or degradation products of atorvastatin)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6R)- (CA INDEX NAME)

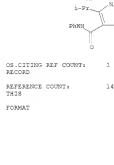
Absolute stereochemistry. Rotation (+).



IT 472967-95-6P 1105067-90-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

L9 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of some impurities and/or degrdn. products of atorvastatin)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

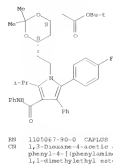
Absolute stereochemistry.



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

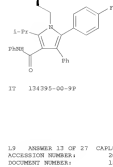
L9 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
(synthesis of some impurities and/or degrdn. products of atorvastatin)
RN 472967-95-6 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6S)- (CA INDEX NAME)

Absolute stereochemistry.



RN 1105067-90-0 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6R)- (CA INDEX NAME)

Absolute stereochemistry.



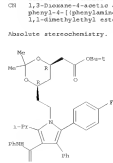
IT 134395-00-9P

L9 ANSWER 13 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2009:97449 CAPLUS
DOCUMENT NUMBER: 150:267592
TITLE: (4R,cis)-6-2-[3-phenyl-4-(phenylcarbamoyl)-2-(4-fluorophenyl)-5 -(1-met hyl-ethyl)-pyrrole-1-yl]-2,2-dimethyl-[1,3] dioxane-4-yl-acetic acid-tertiary butyl ester (PAE) having less than 0.1% of Des-fluoro PAE
AUTHOR(S): Anon.
CORPORATE SOURCE: USA
SOURCE: IP.com Journal (2007), 7(12A), 9 (No. IPCOM000160822D), 25 Nov 2007
CODEN: IJPOBX; ISSN: 1533-0001
PUBLISHER: IP.com, Inc.
DOCUMENT TYPE: Journal; Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IP 1606222D		20071123	IP 2007-1606222D	20071123
PRIORITY APPLN. INFO.:			IP 2007-1606222D	20071123

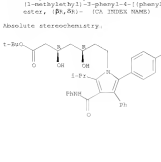
AB A process for preparation of the title pyrrole acetonide ester (PAE) is described. PAE is prepared by a condensation process of AAS and f ecentaining diketone. PAE showed 99.78 HPLC purity and the level of impurity des-F-diketone 0.07%.
IT 125971-95-1P 134395-00-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(pyrrole acetonide ester preparation for lowering low-d. cholesterol)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L9 ANSWER 13 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
RN 174391-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.



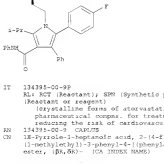
L9 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2008:10628 CAPLUS
DOCUMENT NUMBER: 148:106218
TITLE: Crystalline forms of atorvastatin hemi-calcium and their use in pharmaceutical compositions for the treatment of hypercholesterolemia or for the reducing the risk of cardiovascular events in diabetic patients
INVENTOR(S): Levi, Sigalit; Lifshits-Liron, Revital; Avhar-Maydan, Chaion
PATENT ASSIGNEE(S): Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceuticals USA, Inc.
SOURCE: PCT Int. Appl., 29pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008002655	A2	20080103	WO 2007-US15071	20070628
WO 2008002655	A3	20080327		
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW		
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GH, GM, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BA, BE, CY, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS		
CA 2655881	A1	20080103	CA 2007-2655881	20070628
JP 2009807507	A	20080117	JP 2007-171692	20070629
EP 1926556	A2	20080528	EP 2007-810915	20070628
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
US 20090035352	A1	20090205	US 2007-824099	20070628
MX 2008002804	A	20080402	MX 2008-2804	20080227
KR 2008031467	A	20080408	KR 2008-7004890	20080228
IN 2008DN10516	A	20090306	IN 2008-DN10516	20081229
PRIORITY APPLN. INFO.:			US 2006-816881P P	20060629
			US 2006-837933P P	20060816
			WO 2007-US15071 W	20070628

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
AB Novel forms of atorvastatin hemi-calcium have been prepared and characterized. These novel forms are particularly useful in

L9 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
pharmaceutical compns. The novel atorvastatin hemi-calcium characterized by powder x-ray diffraction peaks at 3.2°, 7.8°, 8.6°, 15.1°, and 17.7° ± 2 theta was prepd. from slurry of atorvastatin hemi-calcium wet form (10 g) in tert-Bu Me ether (20 mL), stirred for 26 h at room temp. The product was isolated by a vacuum filtration under nitrogen flow and dried in a vacuum oven at 45° for 19.5 h to obtain 3.6 g of the said cryst. atorvastatin hemi-calcium (94% yield).
IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(crystalline forms of atorvastatin hemi-calcium and their use in pharmaceutical compns. for treatment of hypercholesterolemia or for reducing the risk of cardiovascular events in diabetic patients)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT 134395-00-99
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(crystalline forms of atorvastatin hemi-calcium and their use in pharmaceutical compns. for treatment of hypercholesterolemia or for reducing the risk of cardiovascular events in diabetic patients)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

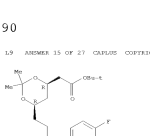
L9 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:1235575 CAPLUS
DOCUMENT NUMBER: 149:315180
TITLE: Atorvastatin free of chlorides
AUTHOR(S): Arvor.
CORPORATE SOURCE: USA
SOURCE: IP.com Journal (2007), 7(8S), 7 (No.
IPCOM000156804D)
, 5 Aug 2007
CODEN: IJPOBK; ISSN: 1533-0001
PUBLISHER: IP.com, Inc.
DOCUMENT TYPE: Journal; Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IP 1568045D		20070905	IP 2007-1568045D	20070905
PRIORITY APPLN. INFO.:			IP 2007-1568045D	20070905

AB The calcium salt of [R(R*,R*)]-2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrole-1-heptanoic acid was prepared by converting the ester derivative to atorvastatin using calcium hydroxide. This process involves deprotecting the pyrrole acetonide ester in acidic conditions, followed by the conversion of the obtained pyrrole diol ester to atorvastatin hemi-calcium salt using calcium hydroxide in water and
IT 125971-95-1 134393-00-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(atorvastatin preparation free of chlorides)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6S)- (CA INDEX NAME)

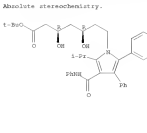
Absolute stereochemistry. Rotation (+).

L9 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



RN 134393-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.



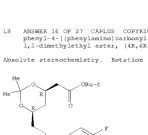
L9 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:973780 CAPLUS
DOCUMENT NUMBER: 147:257636
TITLE: Process for preparation of amorphous atorvastatin calcium salt
INVENTOR(S): Ingle, Sunjhun; San, Khushi; Bhadwal, Paramvir; Thaper, Rajesh Kunar; Dubey, Sushil Kumar
PATENT ASSIGNEE(S): Jubilant Organosys Limited, India
SOURCE: PCT Int. Appl., 11pp.
CODEN: PIXLXU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007088853	A1	20070809	WO 2006-IN376	20060131
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, SC, SD, SE, SG, SK, SL, SM, SV, SY, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
EP 1979313	A1	20081015	EP 2006-711364	20060131
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
IN 2007DN05541	A	20070914	IN 2007-DN5541	20070803
US 20090099337	A1	20090416	US 2008-162409	20081201
PRIORITY APPLN. INFO.:			WO 2006-IN376 W	20060131

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LAPS DISPLAY FORMAT
AB The invention pertains to a process for the preparation of pure amorphous form of atorvastatin calcium salt employing a suitable solvent system selected from water, water miscible solvents or water immiscible solvents or mixtures thereof. For example, (3R,5R)-7-[2-(4-fluorophenyl)-5-isopropyl-3-phenyl-4-phenylcarbamoylpyrrol-1-yl]-3,5-dihydroxyheptanoic acid tert-Bu ester (preparation given) was treated with sodium borohyde at 75-80 °C in water, and then treated with calcium acetate at room temperature
Amorphous atorvastatin calcium was then obtained after work-up. The present invention provides a novel and industrially viable process for preparing atorvastatin calcium in pure amorphous form to avoid drawbacks associated with prior arts, such as using binary or ternary solvent system, etc.
IT 125971-95-1P 134393-00-9P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of amorphous atorvastatin calcium salt)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-

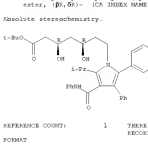
L9 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:388835 CAPLUS
DOCUMENT NUMBER: 147:541645
TITLE: Process for the preparation of intermediates of atorvastatin
INVENTOR(S): Joshi, Narendra Shriram; Bhirud, Shekhar Bhaskar; Damle, Subhash Vishwanath
PATENT ASSIGNEE(S): Glenmark Pharmaceuticals Limited, India
SOURCE: Indian Pat. Appl., 27pp.
CODEN: INXXBQ
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC NUM COUNT: 1
PATENT INFORMATION:

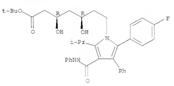
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IN 2004MU00849	A	20060728	IN 2004-MU849	20040608
PRIORITY APPLN. INFO.:			IN 2004-MU849	20040608

OTHER SOURCE(S): CASREACT 147:541645
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

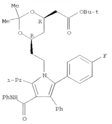
AB A process for the preparation of a pyrrole derivative I [R = H, hydrolyzable protecting group; R, together with the oxygen atom to which each is bonded, form a hydrolysable cyclic protecting group; each R is bonded to the same substituent which is bonded to each oxygen atom to form a hydrolyzable protecting group; R1 = H, lower alkyl, a cation capable of forming a non-toxic pharmaceutically acceptable salt; R2 = 1-naphthyl, 2-naphthyl, C3-25-cycloalkyl, norbornyl, (un)substituted aryl, benzyl, 2-,3-, or 4- pyridinyl, or 2-, 3-, or 4-pyridinyl-N-oxide; R3, R4 = H, lower alkyl, C3-25-cycloalkyl, (un)substituted aryl, CN, CF_3, CONR6R7; R6, R7 = H, lower alkyl, (un)substituted aryl; R5 = lower alkyl, C3-25-cycloalkyl, CF_3], or a racemic mixture, an enantiomer, a diastereoisomer, a mixture thereof, a tautomer thereof, or a pharmaceutically acceptable salt thereof comprising reacting an amino compound II with a di-oxo compd III in the presence of a catalyst and in at least one solvent. Also disclosed is a process for hydrolyzing the pyrrole derivative to provide, for example, atorvastatin (IV) or pharmaceutically acceptable salts thereof. Thus, atorvastatin tert-Bu ester was prepared from tert-Bu (4R-cis)-1,1-dimethylethyl-6-(2-aminoethyl)-2,2-dimethyl-1,3-dioxane-4-acetate via cyclocondensation with N-Methyl-N-phenyl-2-[1-phenyl-2-(4-fluorophenyl)-2-oxoethyl]-4-methyl-3-oxopentanamide in heptane/THF/PhMe containing catalytic $Me(CH_2)_5CO_2H$ followed by hydrolysis with Indion 525 in MeCN.

L9 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



L9 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
IT 125971-95-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and acid hydrolyis of; process for the preparation of intermediates of atorvastatin and analogs)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT 134395-00-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(process for the preparation of intermediates of atorvastatin and analogs)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 18 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:354785 CAPLUS
DOCUMENT NUMBER: 146:344416
TITLE: Method of obtaining amorphous calcium atorvastatin
INVENTOR(S): Faja Genoves, Montserrat; Vilarrasa Llorens, Jaume; Asensio Dominguez, Ramon; Garcia Chapinal, Fernando; Cruzado Rodriguez, M. Carmen
PATENT ASSIGNEE(S): Ercros Industrial, S.A., Spain
SOURCE: PCT Int. Appl., 37pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Spanish
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007034012	A2	20070329	WO 2006-ES517	20060914
WO 2007034012	A3	20070518		

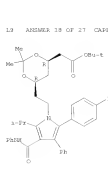
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ES 2270722	A1	20070401	ES 2005-2251	20050915
ES 2270722	B1	20080301		
PRIORITY APPLN. INFO.:			ES 2005-2251 A	20050915

AB The invention relates to a novel method of obtaining amorphous calcium atorvastatin from N-phenyl-2-[1-phenyl-2-(4-fluorophenyl)-2-oxo]ethyl-4-methyl-3-oxo-pentanamide (II) and (3 R,5 R)-7-amino-3,5-(O-isopropylidene)dihydroxy-heptanoate of t-Bu (III), by reacting same with toluene reflux in the presence of an acid catalyst, using a series of synthesis, isolation and hydrolysis steps, after which the crude amorphous atorvastatin obtained is purified, isolated and dried, said steps being performed under very smooth reaction conditions using very short reaction times, moderate temps. and minimal amts. of reagents, thereby producing a high-quality product.
IT 125971-95-1P 134395-00-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of amorphous calcium atorvastatin)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

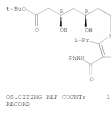
Absolute stereochemistry. Rotation (+).

L9 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

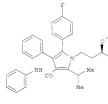
L9 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2007:283462 CAPLUS
DOCUMENT NUMBER: 146:316682
TITLE: Preparation of an atorvastatin intermediate
INVENTOR(S): O'Sullivan, Susany O'Beill, John
PATENT ASSIGNEE(S): Pfizer Sciences and Technology Ireland Limited, Ire
SOURCE: PCT Int. Appl., 17pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007029216	A1	20070315	WO 2005-IB294	20050909
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
CA 2621564	A1	20070315	CA 2005-2621564	20050909
EP 1922315	A1	20080521	EP 2005-777481	20050909
EP 1922315	B1	20090527		
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
JP 2009507821	T	20090226	JP 2008-529773	20050909
AT 432276	T	20090615	AT 2005-777481	20050909
US 20090221839	A1	20090903	US 2008-65555	20080303
PRIORITY APPLN. INFO.:			WO 2005-IB294	W 20050909

OTHER SOURCE(S): CASREACT 146:316682
GI

L9 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



AB A process was disclosed for the preparation of atorvastatin lactone (I) and

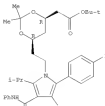
comprised hydrogenating tert-Bu isopropylidene nitrile II (R = CH2CN) to the corresponding amine II (R = CH2CH2NH2) and coondensing the amine with 2-[2-(4-fluorophenyl)-2-oxo-1-phenylethyl]-4-methyl-3-oxopentanoic acid propylamide, the diketone of atorvastatin, to form the tert-Bu ester of atorvastatin acetonide followed by conversion of the acetonide to the target lactone by a acetonide deprotection/ester saponification/lactonization reaction sequence.

IT 125971-95-1P 134395-00-9P, Atorvastatin tert-butyl ester
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(claimed intermediate; process for the preparation of atorvastatin lactone, an intermediate for the synthesis of atorvastatin)

RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4S,6R)- (CA INDEX NAME)

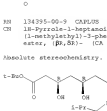
Absolute stereochemistry. Rotation (+).

L9 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

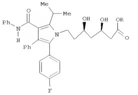
FORMAT

L9 ANSWER 20 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:906720 CAPLUS
DOCUMENT NUMBER: 145:314717
TITLE: Process for producing atorvastatin hemi-calcium
INVENTOR(S): Guntoori, Bhaskar Reddy; Che, Daqing; Murthy, K. S. Keshava; Zhao, Yajun; Horne, Stephen E.; Duncan, Sammy Chris
PATENT ASSIGNEE(S): Apotex Pharmachem Inc., Can.
SOURCE: Can. Pat. Appl., 25pp.
CODEN: CPXXEB
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2499047	A1	20060901	CA 2005-2499047	20050301
US 20060199855	A1	20060907	US 2005-197413	20050805
US 7615647	B2	20091110		
AU 2006220258	A1	20060908	AU 2006-220258	20060214
WO 2006092037	A1	20060908	WO 2006-CA190	20060214
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1853558	A1	20071114	EP 2006-705146	20060214
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
PRIORITY APPLN. INFO.:			CA 2005-2499047 A	20050301
			WO 2006-CA190 W	20060214

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 145:314717
GI

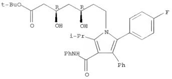
L9 ANSWER 20 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



I

AB A process is provided for preparing pharmaceutical grade atorvastatin hemi-calcium salt comprising: (a) de-esterifying I, wherein R is an ester protecting group ; (b) extracting I (R = H) into an organic solvent or mixture of solvents, (c) adding a base of formula NR1R2R3 wherein R1-R3 are independently selected from H, substituted or non-substituted C1 to C7 alkyl, C6 to C9 aryl, C8 to C10 aralkyl or aminoalkyl to form atorvastatin base salt, (d) isolating by precipitation of the above atorvastatin base salt and purifying when necessary, (e) converting atorvastatin base salt to atorvastatin hemi-calcium salt by treatment with a calcium salt solution, and (f) isolating the atorvastatin hemi-calcium salt.
IT 134395-00-9P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for producing atorvastatin hemi-calcium)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

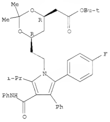
Absolute stereochemistry.



L9 ANSWER 20 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)

IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for producing atorvastatin hemi-calcium)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

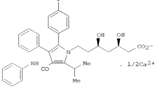
Absolute stereochemistry. Rotation (+).



L9 ANSWER 21 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:485609 CAPLUS
DOCUMENT NUMBER: 144:488454
TITLE: Process for the production of atorvastatin calcium in amorphous form
INVENTOR(S): Kumar, Yatendra; Kumar, Saridi Madhava Dileep; Sathyanarayana, Swargam H.
PATENT ASSIGNEE(S): Ranbaxy Laboratories Limited, India
SOURCE: Eur. Pat. Appl., 27 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1659110	A1	20060524	EP 2005-77109	20050916
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
FI 2004001489	A	20060720	FI 2004-1489	20041119
FI 120344	B1	20090930		
IN 2006DN06062	A	20070831	IN 2006-DN6062	20061017
US 20100197941	A1	20100805	US 2008-549890	20081006
PRIORITY APPLN. INFO.:			FI 2004-1489 A	20041119
			IN 2004-DE491 A	20040317
			WO 2004-IB3789 W	20041119

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): CASREACT 144:488454
GI

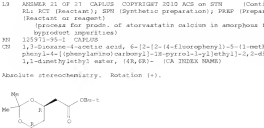


I

AB A process was disclosed for the production of amorphous atorvastatin calcium and stabilized, amorphous atorvastatin calcium (I) free of byproduct impurities.
IT 125971-95-1P 134395-00-9P

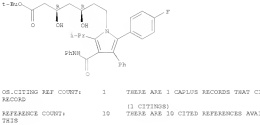
L9 ANSWER 21 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
RL: RCT (Reactant); STM (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for prodn. of atorvastatin calcium in amorphous form free of byproduct impurities)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS

L9 ANSWER 22 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:437938 CAPLUS
DOCUMENT NUMBER: 144:456526
TITLE: A process for the synthesis of large particle size statin compounds.
INVENTOR(S): Suri, Sanjay Sarin, Gurdeep Singh
PATENT ASSIGNEE(S): Morepen Laboratories Limited, India
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

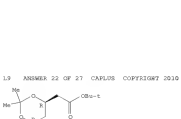
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006048893	A2	20060511	WO 2005-IN359	20051103
WO 2006048893	A3	20060713		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, AP, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
IN 2004DE02206	A	20060818	IN 2004-DE2206	20041105
PRIORITY APPLN. INFO.:			IN 2004-DE2206 A	20041105

AB This invention discloses a process for synthesis of with large size statin
compds. comprising adding solution of desired statin compound either crystalline or
amorphous form, optionally obtained from, their intermediates by known methods, in organic solvent to anti-solvent, under stirring, optionally the
solvent was being evaporated, isolating the title compound by centrifugation
followed by drying under vacuum. Specifically the process was directed to
the synthesis of atorvastatin calcium and fluvastatin sodium. Crystalline
forms A and B of fluvastatin sodium were prepared by using the precipitation process
from THF and heptane.
IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparation of large particle size statin compds.)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

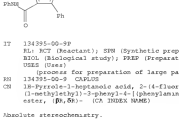
L9 ANSWER 21 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L9 ANSWER 22 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



IT 134395-00-9P
RL: RCT (Reactant); STM (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(process for preparation of large particle size statin compds.)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD
(1 CITINGS)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L9 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2006:342755 CAPLUS
DOCUMENT NUMBER: 144:376507
TITLE: Amorphous atorvastatin calcium
INVENTOR(S): Gudipati, Srinivasulu; Katkam, Srinivas; Komati, Satyanarayana; Kudavalli, Satyanarayana Jaya
PATENT ASSIGNEE(S): Dr. Reddy's Laboratories Ltd., India; Dr. Reddy's Laboratories, Inc.
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC NUM COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006039441	A2	20060413	WO 2005-US35094	20050929
WO 2006039441	A3	20060720		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IN 2005CH01377	A	20071005	IN 2005-CH1377	20050928
CA 2582449	A1	20060413	CA 2005-2582449	20050929
EP 1793815	A2	20070613	EP 2005-803604	20050929

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008514722	T	20080508	JP 2007-534782	20050929
US 20080009540	A1	20080110	US 2007-576396	20070330
KR 2007106680	A	20071105	KR 2007-7007918	20070406
PRIORITY APPLN. INFO.:			US 2004-614578P P	20040930
			IN 2005-CH715 A	20050610
			WO 2005-US35094 W	20050929

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): CASREACT 144:376507

AB An amorphous form of atorvastatin calcium having an enhanced stability containing about 2 to 8 weight% water is provided. A process for preparing the amorphous atorvastatin calcium and a packaging system for maintaining the stability are also described. For example, amorphous atorvastatin calcium having a 6 weight% water was initially packed in a polyethylene bag, the bag

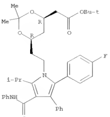
L9 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)

was tied and then placed in a black polyethylene bag with a silica gel pouch under a nitrogen atm. and sealed. The sealed black polyethylene bag was placed in a triple laminated bag along with a silica gel pouch, purged with nitrogen, sealed, and stored in a HDPE drum. The amorphous atorvastatin calcium did not change appreciably during storage at 25° and 60% relative humidity or at 2 to 8°.

IT 125971-95-1P 134395-00-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and packaging of amorphous atorvastatin calcium)

RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

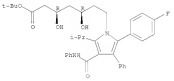
Absolute stereochemistry. Rotation (+).



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.

L9 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:1123884 CAPLUS
DOCUMENT NUMBER: 143:410952
TITLE: Polymorphs of atorvastatin tert-butyl ester and use as intermediates for the preparation of atorvastatin
INVENTOR(S): Stimac, Anton; Zupet, Rok; Grcman, Marija; Smrkolj, Matej; Jakse, Renata
PATENT ASSIGNEE(S): Krka, Tovarna Zdravil D.D. Novo Mesto, Slovenia
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005097742	A1	20051020	WO 2005-EP3733	20050408

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

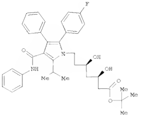
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SI 21745	A	20051031	SI 2004-112	20040409
EP 1732886	A1	20061220	EP 2005-729986	20050408
EP 1732886	B1	20100303		

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1946687	A	20070411	CN 2005-80012246	20050408
CN 101538238	A	20090923	CN 2009-10136813	20050408
PT 1732886	E	20100312	PT 2005-729986	20050408
AT 459602	T	20100315	AT 2005-729986	20050408
ES 2339570	T3	20100521	ES 2005-729986	20050408
IN 2006CN03739	A	20070706	IN 2006-CN3739	20061009
NO 2006005146	A	20061108	NO 2006-5146	20061108
PRIORITY APPLN. INFO.:			SI 2004-112 A	20040409
			CN 2005-80012246 A3	20050408
			WO 2005-EP3733 W	20050408

GI

L9 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



I

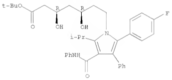
AB The invention relates to crystalline forms and 1 and 2 of atorvastatin tert.-Bu ester (I), processes for their preparation and their conversion to highly pure atorvastatin hemicalcium in non-crystalline, in particular amorphous form.

IT 134395-00-9P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polymorphs of atorvastatin tert-Bu ester and their uses as intermediates for the preparation of atorvastatin)

RN 134395-00-9 CAPLUS

CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.



IT 125971-95-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

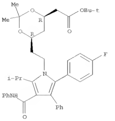
L9 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)

(Reactant or reagent)
(polymorphs of atorvastatin tert-Bu ester and their uses as intermediates for the prepn. of atorvastatin)

RN 125971-95-1 CAPLUS

CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:1020454 CAPLUS
DOCUMENT NUMBER: 143:326129
TITLE: Process for the production of atorvastatin calcium in amorphous form
INVENTOR(S): Kumar, Yatendra; Kumar, Saridi Madhava Dileep; Sathyanarayana, Swargam
PATENT ASSIGNEE(S): Ranbaxy Laboratories, Ltd., India
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1577297	A1	20050921	EP 2004-27584	20041119
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU				
IN 2004DE00491	A	20060526	IN 2004-DE491	20040317
NO 2004005037	A	20050919	NO 2004-5037	20041119
AU 2004317570	A1	20051006	AU 2004-317570	20041119
CA 2560252	A1	20051006	CA 2004-2560252	20041119
CA 2560252	C	20090804		
CA 2627940	A1	20051006	CA 2004-2627940	20041119
CA 2666359	A1	20051006	CA 2004-2666359	20041119
WO 2005092852	A1	20051006	WO 2004-IB3789	20041119
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1727795	A1	20061206	EP 2004-798913	20041119
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, LT, LV, MK				
CN 1942439	A	20070404	CN 2004-80042834	20041119
AR 48271	A1	20060412	AR 2005-101018	20050316
IN 2005DE00561	A	20070112	IN 2005-DE561	20050316
IN 2006DN06062	A	200708[illegible]	IN 2006-DN6062	[illegible]
US 20100197941	A1	20100805	US 2008-549890	20081006
PRIORITY APPLN. INFO.:			IN 2004-DE491 A	20040317
			CA 2004-2560252 A3	20041119
			WO 2004-IB3789 W	20041119

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

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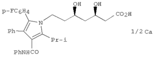
L9 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



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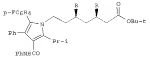


II

AB A process for the production of amorphous atorvastatin calcium (I) and stabilized, amorphous atorvastatin calcium was achieved by a) reacting a solution of the dioxaneacetate II (RR1 = OCMe2O) in a water miscible solvent with an acid to give II (R = R1 = H); b) treating II (R = R1 = OH) with an alkali metal hydroxide to give an alkali metal salt of atorvastatin; c) washing the solution of alkali metal salt of atorvastatin with a solvent immiscible or slightly miscible in water; d) treating the washed solution of alkali metal salt of atorvastatin with a calcium salt or calcium hydroxide to obtain atorvastatin calcium; e) isolating crude atorvastatin calcium; f) purifying crude atorvastatin calcium by dissolving in a mixture of THF and methanol, and precipitating with water to obtain pure atorvastatin calcium in crystalline form; and g) converting crystalline pure atorvastatin calcium into amorphous form.

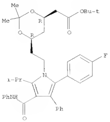
IT 125971-95-1P 134395-00-9P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for production of atorvastatin calcium in amorphous form)

RN 125971-95-1 CAPLUS

CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

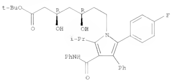
Absolute stereochemistry. Rotation (+).

L9 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD
(2 CITINGS)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

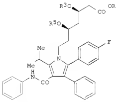
L9 ANSWER 26 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2003:154436 CAPLUS
DOCUMENT NUMBER: 138:204870
TITLE: Processes for preparing calcium salt forms of statins
INVENTOR(S): Niddam-Hildesheim, Valerie; Lifshitz-Liron, Revital; Lidor-Hadas, Rami
PATENT ASSIGNEE(S): Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceuticals USA, Inc.
SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO	DATE
WO 2003016317	A1	20030227	WO 2002-US26012	20020816
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 20020099224	A1	20020725	US 2001-37412	20011024
US 6528661	B2	20030304		
CA 2450820	A1	20030227	CA 2002-2450820	20020816
AU 2002324715	A1	20030303	AU 2002-324715	20020816
AU 2002324715	B2	20090312		
US 20030114685	A1	20030619	US 2002-222556	20020816
US 6777552	B2	20040817		
EP 1425287	A1	20040609	EP 2002-759374	20020816
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
TR 2003002281	T2	20040921	TR 2003-2281	20020816
CN 1543468	A	20041103	CN 2002-815999	20020816
CN 100430405	C	20081105		
JP 2005500382	T	20050106	JP 2003-521239	20020816
JP 4188826	B2	20081203		
NZ 529913	A	20050324	NZ 2002-529913	20020816
HU 2005000616	A2	20051128	HU 2005-616	20020816
IL 160077	A	20071031	IL 2002-160077	20020816
ZA 2003009373	A	20041202	ZA 2003-9373	20031202
IN 2003MN01112	A	20050429	IN 2003-MN1112	20031205
IN 208174	A1	20070810		
MX 2004001451	A	20050217	MX 2004-1451	20040213
NO 2004001082	A	20040315	NO 2004-1082	20040315
HR 2004000255	A2	20040831	HR 2004-255	20040315
US 20040176615	A1	20040909	US 2004-803414	20040318
US 20050197501	A1	20050908	US 2005-120567	20050502
AU 2007205725	A1	20070830	AU 2007-205725	20070809

L9 ANSWER 26 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)

JP 2009024008	A	20090205	JP 2008-184147		20080715
PRIORITY APPLN. INFO.:			US 2001-312812P	P	20010816
			US 2001-37412	A	20011024
			US 2000-249319P	P	20001116
			US 2001-312144P	P	20010813
			US 2001-326529P	P	20011001
			AU 2002-17927	T0	20011129
			AU 2002-217927	A3	20011129
			JP 2003-521239	A3	20020816
			US 2002-222556	A3	20020816
			WO 2002-US26012	W	20020816
			US 2004-803414	A1	20040318

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 138:204870
GI

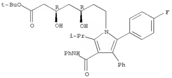


I

AB Processes for preparing hemicalcium salts of a statins RCH(OH)CH2CH(OH)CH2CO2H (R = statin organic radical selected from pravastatin, fluvastatin, cerivastatin, atorvastatin, rosuvastatin, pitavastatin, simvastatin, or lovastatin) from an ester derivative or protected ester derivative of the statin by using calcium hydroxide are provided. The ester or protected ester derivative is contacted with calcium
hydroxide to obtain the calcium salt. Preferred statins are rosuvastatin,
pitavastatin and atorvastatin, simvastatin and lovastatin. In processes beginning with a protected satin ester derivative, the protecting group is

L9 ANSWER 26 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)
hydrolyzed during salt formation by contact with calcium hydroxide, or is contacted with an acid catalyst followed by contact with calcium hydroxide. Thus, diol-protected atorvastatin ester I (R = CMe3, R3R5 = CMe2) was treated with an 80% aq. soln of AcOH at rt for 20 h to form the deprotected ester I (R = CMe3, R3 = R5 = H) which was in turn dissolved in
EtOH, treated with a satd. soln of Ca(OH)2 contg. Bu4N+Br- and stirred at 45° for 24 h to give atorvastatin hemicalcium salt I (R = 1/2Ca, R3 = R5 = H) in 77% yield for the two steps.
IT 134395-00-9P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(processes for preparing calcium salt forms of statins)
RN 134395-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βR,δR)- (CA INDEX NAME)

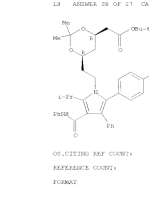
Absolute stereochemistry.



IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(processes for preparing calcium salt forms of statins)
RN 125971-95-1 CAPLUS
CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

L9 ANSWER 26 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS RECORD (22 CITINGS)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L9 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2002:428654 CAPLUS
DOCUMENT NUMBER: 137:6032
TITLE: Hydrolysis of [R-(R*,R*)]-2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrole-1-heptanoic acid esters with calcium hydroxide
INVENTOR(S): Lidor-Hadas, Ramy; Lifshitz, Revital; Ishai, Uti; Hiddan, Valerie
PATENT ASSIGNEE(S): Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceutical USA, Inc.
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002043667	A2	20020606	WO 2001-US50639	20011024
WO 2002043667	A3	20021010		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2427255	A1	20020606	CA 2001-2427255	20011024
AU 2002032891	A	20020611	AU 2002-32891	20011024
EP 1341785	A2	20030910	EP 2001-992422	20011024
EP 1341785	B1	20051005		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
HU 2003003555	A2	20040301	HU 2003-3555	20011024
HU 2003003555	A3	20050629		
JP 2004514687	T	20040520	JP 2002-545646	20011024
JP 4234419	B2	20090304		
ZA 2003003974	A	20040823	ZA 2003-3974	20011024
CN 1561341	A	20050105	CN 2001-821968	20011024
CN 1330644	C	20070808		
NZ 526022	A	20050429	NZ 2001-526022	20011024
AU 2002323891	B2	20061214	AU 2002-323891	20011024
AT 410413	T	20081015	AT 2001-992422	20011024
PT 1341785	E	20090116	PT 2001-992422	20011024
ES 2313999	T3	20090316	ES 2001-992422	20011024
CA 2625277	A1	20020606	CA 2001-2625277	20011129
CA 2689915	A1	20020606	CA 2001-2689915	20011129
EP 1783133	A2	20070509	EP 2006-24449	20011129
EP 1783133	A3	20070530		
R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR, SI				

L9 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)

			AU 2001-317927	A3 20011129
			CA 2001-2429590	A3 20011129
			CA 2001-2625277	A3 20011129
			EP 2001-998348	A3 20011129
			JP 2002-545702	A3 20011129
			US 2001-997126	A3 20011129
			US 2002-222556	A3 20020816
			IN 2003-DN701	A3 20030505
			US 2004-803414	A1 20040318
			US 2004-994142	A3 20041119
			US 2005-257808	A1 20051024

OTHER SOURCE(S): CASREACT 137:6032; MARPAT 137:6032

AB The present invention provides a process for preparing atorvastatin hemi-calcium from an atorvastatin ester derivatives with calcium hydroxide.
The process is conveniently incorporated into a process for preparing atorvastatin hemi-calcium from an acetonide protected, ester protected β,δ-dihydroxy heptanoic acid precursor compound by a first mild hydrolysis step followed by base hydrolysis with calcium hydroxide. The latter process may be performed as a one-pot process. Thus, (4R,6R)-6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-1,3-dioxane-4-acetic acid 1,1-dimethylethyl ester was treated with aqueous acetic acid to give atorvastatin tert-Bu ester, atorvastatin free acid and atorvastatin lactone which were subsequently treated with a saturated solution of calcium hydroxide containing tetrabutylammonium bromide to give the desired atorvastatin hemi-calcium in 77% yield.

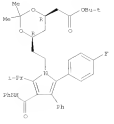
IT 125971-95-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for the preparation of atorvastatin hemi-calcium via hydrolysis of [R-(R*,R*)]-2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrole-1-heptanoic acid esters with calcium hydroxide)

RN 125971-95-1 CAPLUS

CN 1,3-Dioxane-4-acetic acid, 6-[2-[2-(4-fluorophenyl)-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrol-1-yl]ethyl]-2,2-dimethyl-, 1,1-dimethylethyl ester, (4R,6R)- (CA INDEX NAME)

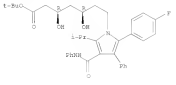
Absolute stereochemistry. Rotation (+).

L9 ANSWER 27 OF 27 CAPLUS COPYRIGHT 2010 ACS on STN (Continued)



IT 134795-00-9P
RL: BCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for the preparation of atorvastatin hemi-calcium via hydrolysis of
1R-(R*,R*)]-2-(4-fluorophenyl)-β,δ-dihydroxy-5-[1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1H-pyrrole-1-heptanoic acid esters with calcium hydroxide)
RN 134795-00-9 CAPLUS
CN 1H-Pyrrole-1-heptanoic acid, 2-(4-fluorophenyl)-β,δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-, 1,1-dimethylethyl ester, (βS,δS)- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITINGS)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT